

In the Claims

1-25 (canceled).

26 (new). A composition of matter comprising:

- (a) an angiogenesis inhibiting molecule comprising:
  - (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33;
- (b) the hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622;
- (c) an isolated polynucleotide comprising a sequence encoding an angiogenesis inhibiting molecule comprising:

- (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33;
- (d) an expression cassette comprising a polynucleotide linked to appropriate control sequences allowing the regulation of its transcription and translation in a chosen host cell, said polynucleotide comprising a sequence encoding an angiogenesis inhibiting molecule comprising:
- (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;

- (iv) a fragment of H33 selected from:
  - (A) a Fab fragment;
  - (B) a Fv fragment;
  - (C) a single domain antigen binding fragment;
  - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
  - (E)  $V_{HH}$ ;
- (v) a recombinant antibody having the specificity of H33; or
- (vi) a human monoclonal antibody having the specificity of H33;
- (e) a recombinant vector comprising an expression cassette, said expression cassette comprising a polynucleotide linked to appropriate control sequences allowing the regulation of its transcription and translation in a chosen host cell, said polynucleotide comprising a sequence encoding an angiogenesis inhibiting molecule comprising:
  - (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;

- (v) a recombinant antibody having the specificity of H33; or
- (vi) a human monoclonal antibody having the specificity of H33; or
- (f) a host cell comprising a recombinant vector comprising an expression cassette, said expression cassette comprising a polynucleotide linked to appropriate control sequences allowing the regulation of its transcription and translation in a chosen host cell, said polynucleotide comprising a sequence encoding an angiogenesis inhibiting molecule comprising:
  - (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33.

27 (new). The composition of matter according to claim 26, wherein said angiogenesis inhibiting molecule further comprises one or two non-immunoglobulin moieties.

28 (new). The composition of matter according to claim 26, wherein said polynucleotide encodes an angiogenesis inhibiting molecule that further comprises one or two non-immunoglobulin moieties.

29 (new). The composition of matter according to claim 26, wherein said angiogenesis inhibiting molecule:

- a) blocks angiogenesis *in vitro* and *in vivo*;
- b) prevents tumor growth *in vivo*;
- c) reduces the recruitment of macrophages into tumors; and
- d) blocks the interaction of JAM-C with JAM-B.

30 (new). The composition of matter according to claim 27, wherein said angiogenesis inhibiting molecule:

- a) blocks angiogenesis *in vitro* and *in vivo*;
- b) prevents tumor growth *in vivo*;
- c) reduces the recruitment of macrophages into tumors; and
- d) blocks the interaction of JAM-C with JAM-B.

31 (new). The composition of matter according to claim 28, wherein said angiogenesis inhibiting molecule:

- a) blocks angiogenesis *in vitro* and *in vivo*;
- b) prevents tumor growth *in vivo*;
- c) reduces the recruitment of macrophages into tumors; and
- d) blocks the interaction of JAM-C with JAM-B.

32 (new). The composition of matter according to claim 26, wherein said composition of matter comprises:

- (a) an angiogenesis inhibiting molecule comprising:
  - (i) the antibody H33, produced by hybridoma 13H33 as deposited with the

Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;

- (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33; and
- (b) a suitable excipient, carrier or diluent.

33 (new). The composition of matter according to claim 32, wherein said angiogenesis inhibiting molecule further comprises one or two non-immunoglobulin moieties.

34 (new). The composition of matter according to claim 32, wherein the angiogenesis inhibiting molecule is labeled.

35 (new). The composition of matter according to claim 33, wherein the angiogenesis inhibiting molecule is labeled.

36 (new). A method for producing an angiogenesis inhibiting molecule comprising

- (a) introducing into a eukaryotic or prokaryotic host cell a recombinant expression vector

comprising an expression cassette, said expression cassette comprising a polynucleotide linked to appropriate control sequences allowing the regulation of its transcription and translation in a chosen host cell, said polynucleotide comprising a sequence encoding an angiogenesis inhibiting molecule comprising:

- (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33; and
- (b) culturing the host cell for a time sufficient to allow for expression of the product in the host cell.

37 (new). The method according to claim 36, wherein said polynucleotide encodes an angiogenesis inhibiting molecule that further comprises one or two non-immunoglobulin moieties.

38 (new). The method according to claim 36, wherein the host cell is a mammalian cell.

39 (new). The method according to claim 38, wherein the host cell is a CHO, NS/0 myeloma, COS, HEK293 or SP2.0 cell.

40 (new). The method according to claim 37, wherein the host cell is a mammalian cell.

41 (new). The method according to claim 40, wherein the host cell is a CHO, NS/0 myeloma, COS, HEK293 or SP2.0 cell.

42 (new). A method of binding an angiogenesis inhibiting molecule to JAM-C comprising contacting a sample, under conditions that allow for the binding of said angiogenesis inhibiting molecule to JAM-C, with a composition comprising:

- (a) an angiogenesis inhibiting molecule comprising:
  - (i) the antibody H33, produced by hybridoma 13H33 as deposited with the Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH under the deposit accession number DSM ACC2622, and fragments or derivatives thereof that have the same specificity as H33;
  - (ii) a humanized antibody based on H33 and having the same specificity as antibody H33;
  - (iii) a chimeric antibody based on H33 and having the same specificity as antibody H33;
  - (iv) a fragment of H33 selected from:
    - (A) a Fab fragment;
    - (B) a Fv fragment;
    - (C) a single domain antigen binding fragment;
    - (D) a scFv, a dimer of a scFv, a trimer of a scFv and a larger aggregate of a scFv; or
    - (E)  $V_{HH}$ ;
  - (v) a recombinant antibody having the specificity of H33; or
  - (vi) a human monoclonal antibody having the specificity of H33; and



(b) a suitable excipient, carrier or diluent.

43 (new). The method according to claim 42, wherein said method further comprises the detection of the binding of JAM-C to said angiogenesis inhibiting molecule.

44 (new). The method according to claim 43, wherein said sample is a tissue sample, a body fluid sample or a cell sample.

45 (new). The method according to claim 43, wherein said method is *ex vivo* or *in vitro*.